

# PATENT ABSTRACTS OF JAPAN

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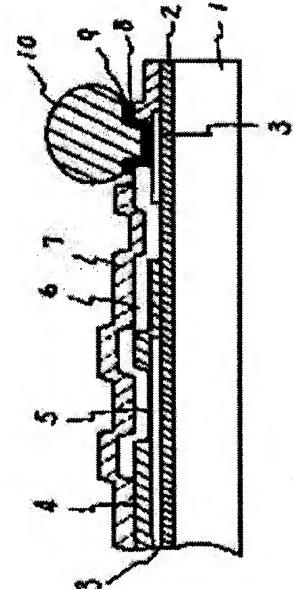
(72) Inventor : HIRANO MIKIO

## (54) PROJECTING ELECTRODE FOR CONNECTING TERMINAL OF SUPERCONDUCTING THIN-FILM FUNCTION ELEMENT

### (57) Abstract:

PURPOSE: To reflow-bond the projecting electrode of the Josephson LSI with a substrate for mounting at a low temperature by using a low melting-point superconducting metal obtained by adding Sn or Bi to In as the projecting electrode.

CONSTITUTION: A SiO<sub>2</sub> layer 2, a Nb lower electrode 3, the SiO of a layer insulating film 4, the tunnel barrier layer 5 of a NbO film, a Nb upper electrode 6 and the layer insulating layer (a protective film) 7 of SiO are formed onto the silicon single crystal substrate 1 in succession, and projecting electrode foundation metals 8, 9 are evaporated. A resist pattern for plating through which the projecting electrode foundation metals are exposed is shaped, and a wafer is immersed into a Sn plating liquid and Sn is formed. The wafer is immersed into an In plating liquid and In is shaped, and inserted into an electric furnace, laminated plated layers are melted instantaneously, and the semispherical superconducting projecting electrode 10 in In-Sn is molded.



### LEGAL STATUS

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⑨ 日本国特許庁 (JP)

⑩ 實用新案出願公開

⑪ 公開実用新案公報 (U)

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⑬ 公開 昭和58年(1983)7月2日

審査請求 未請求

(全 2 頁)

⑭ 小型機器のケース構造

⑮ 実願 昭56-197345

⑯ 出願人 カシオ計算機株式会社

⑰ 考案者 昭56(1981)12月24日

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⑲ 実用新案登録請求の範囲

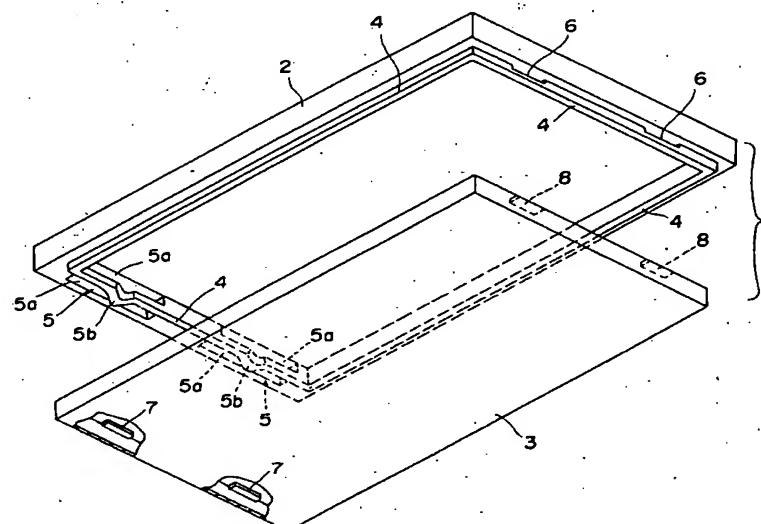
ケースを2つに分割し、一方のケースの互いに対応する縁部に係合部と嵌合突起または係止孔とを各々内側に対向形成し、且つ他方のケースの縁部に、上記係合部と係合すると共にケースの外側へ上記係合部を弾性的に押圧する弾性係合部と、上記嵌合突起または係止孔がケースの外側から嵌合する係止孔または嵌合突起とを設けてなる小型機器のケース構造。

図面の簡単な説明

第1図はこの考案に係るケース構造の分解斜視図、第2図はそれを組み立てた場合を示し、第2図イはその断面図、第2図ロは下部ケースを取り外す際の断面図である。

1…ケース、2…上部ケース、3…下部ケース、  
5…弾性係合部、6…係止孔、7…係合部、8…  
嵌合突起。

第1図



実開 昭58-97881(2)

第2図

